

Remarks

In the Office Action dated November 18, 2008, the Examiner rejected claims 1, 3, 4, 9 and 10 under 35 U.S.C. § 103 as being unpatentable over the U.S. Patent to Carroll 5,814,921 in view of U.S. published patent application 2002/0172060 in the name of Takeuchi. The Examiner rejected claim 11 under 35 U.S.C. § 103 as being unpatentable over Carroll in view of the U.S. published patent application 2004/0007942 in the name of Nishida, et al. The Examiner rejected claims 12-21 under 35 U.S.C. § 103 as being obvious over Nishida, et al. and further in view of Takeuchi.

Claims 1 and 12 have been amended to make it clear that: 1) the micromechanical first resonator device includes an element which is supported to vibrate inertially at a low frequency by inertial forces; 2) the second resonator device has a mechanical spring force; 3) a magnetic force is generated between the devices (by a magnet in claim 12); and 4) the magnetic force between the devices is greater than the spring force at a catch point, at which the second resonator device is pulled towards the vibrating element.

Clearly, none of the references of record taken either alone or in combination with one another teach, disclose or discuss the features of amended claims 1 and 12. For example, the cantilevered beams of piezoelectric material of Carroll are forced to resonate at their natural mechanical frequency. The motion of the array of cams (16) is not resonant, meaning that they are moving based on the motion of the array of cams which is in relation to whatever they are attached to.

Takeuchi's device is not an up conversion device since it does not vibrate the power generation unit at a frequency higher than the unit that receives mechanical vibration from outside.

Nishida, et al., discloses a MEMS resonant generator system including a substrate and a plurality of a suspended structure includes piezoelectric layer across which a voltage is

S/N: 10/597,321
Reply to Office Action of November 18, 2008

Atty Dkt No. UOM 0329 PUSA

generated in response to vibrational energy. At least one power processor is disposed on the substrate. The power processor is electrically coupled to outputs of the plurality of micro generators.

Consequently, in view of the above and in the absence of better art, Applicants' Attorney respectfully submits the application is in condition for allowance which allowance is respectfully requested.

Please charge any fees or credit any overpayments as a result of the filing of this paper to our Deposit Account No. 02-3978.

Respectfully submitted,

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Date: February 17, 2009

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